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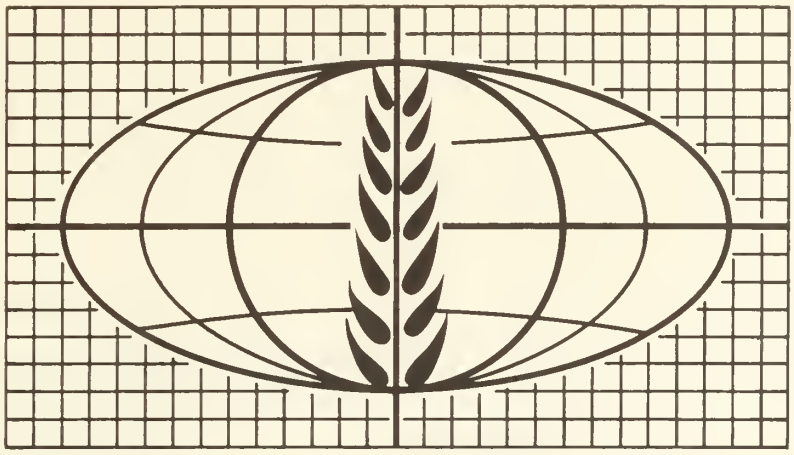

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THE AGRICULTURAL SITUATION IN THE SOVIET UNION

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Review of 1973 and Outlook for 1974

U.S. DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE

Washington, D.C.

ABSTRACT

Soviet 1973 agricultural production increased sharply compared with the disappointing 1972 level. Unusually good weather resulted in record or near-record crops. Livestock gains were modest but should increase more rapidly in 1974. Compared with 1973, crop production in 1974 is expected to be off somewhat unless weather again is unusually good. Soviet grain and oilseed import requirements are down sharply because of good 1973 crops.

KEYWORDS: Soviet Union, agricultural production, crops, livestock, agricultural inputs, agricultural trade, plans, prospects.

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CONVERSION EQUIVALENTS

Pounds per bushel

Wheat and potatoes	60
Rye and corn	56
Barley	48
Oats	32

One kilogram	equals	2.2046 pounds
One centner or metric quintal	"	220.46 pounds
One metric ton	"	10 centners or 2204.6 pounds
One hectare	"	2.471 acres
One acre	"	0.4 hectare
One kilometer	"	0.6 mile

Metric tons to bushels

One metric ton	Bushels
Wheat and potatoes	36.743
Rye and corn	39.368
Barley	45.929
Oats	68.894

Bushels to metric tons

One bushel	Metric tons
Wheat and potatoes	.02722
Rye and corn	.02540
Barley	.02177
Oats	.01452

To convert centners per hectare to bushels per acre, multiply by:

Wheat and potatoes	1.487
Rye and corn	1.593
Barley	1.8587
Oats	2.788

To convert bushels per acre to centners (metric quintals) per hectare, multiply by:

Wheat and potatoes	0.6725
Rye and corn	0.6277
Barley	0.5380
Oats	0.3587

One metric ton of seed cotton = 1.562 bales of 480 pounds.
One metric ton of ginned cotton = 4.593 bales of 480 pounds.

THE AGRICULTURAL SITUATION IN THE SOVIET UNION

SUMMARY

In 1973, agricultural output in the Soviet Union increased 14 percent over the disappointing 1972 level, a greater jump than the planned 12.6-percent increase. Unusually good weather and soil moisture supplies, in sharp contrast to extremely adverse weather in 1972, permitted total crop production to increase by nearly a fourth. Growth in livestock production was relatively small because early in 1973, feed was still in short supply, despite large imports.

Soviet farm production in 1974 is planned to increase by 6.4 percent, which seems optimistic unless weather is again unusually favorable. Crop production will most likely fall somewhat short of the record 1973 performance, although livestock raising is benefiting from excellent 1973 feed supplies.

Gross 1973 grain production was 222.5 million tons, about 35 million tons more than the previous record, which was set in 1970, and 25 million tons more than planned for 1973.[1] The wheat crop totaled 109.7 million tons, almost a tenth larger than the previous record—set in 1966. Feed grain output was about 86 million tons, over 40 percent larger than the 1970-72 average. However, because of heavy precipitation during harvesting, the amount of excess moisture and foreign matter reflected in the gross harvest figure is probably greater than normal. Also, the quality of much of the grain was relatively low.

The 1974 grain crop is planned at 205 million tons, 8 percent less than the 1973 record harvest. Wheat is to account for 100 million tons. Given normal weather, a planned grain area of 126 million hectares, and a continuation of past yield trends, the grain production goal appears to be attainable.

There were 35.3 million hectares of winter grain seeded last fall, an area about equal to that planned. Winter damage to this grain was probably about average—that is, 15-20 percent of the planted area was affected. Thus, roughly 30 million hectares of winter grains are expected to be harvested in 1974.

Sunflowerseed production, at 7.34 million tons, and the cotton crop, at 7.66 million tons, set new records in 1973, while the sugarbeet harvest, at 86.8 million tons, was second only to the record 1968 crop. Another record cotton crop is probably in prospect for 1974, and sugarbeet output should about equal the 1973 harvest. Sunflowerseed production is planned at almost 7.2 million tons, somewhat less than the 1973 output.

The 1973 potato and vegetable crops, at 107.7 million and 24.5 million tons, respectively, also set new records. Harvests in 1974 should be somewhat smaller, given normal weather.

Livestock production, except for meat, rose significantly in 1973. Meat production, at 13.5 million tons, was slightly below the 1972 level. But the 87.2 million tons of milk and 50.8 billion eggs produced in 1973 were 5 and 6 percent, respectively, above 1972 output. The amounts of meat and milk produced were still well short of the original 5-year plan goals for 1973, while eggs were well above the target. Plans for 1974 call for 14.4 million tons of meat, 90.8 million tons of milk, and 53.5 billion eggs. Final results will depend on 1974 pasture and crop conditions.

Soviet livestock and poultry numbers on January 1, 1974, were at record levels, except for hog inventories. Cattle numbers continued the steady but modest growth of recent years and sheep flocks recovered from setbacks in 1969 and 1972. Hog numbers did not fully recover from the decrease experienced in 1972. Livestock and poultry inventories should continue to expand in 1974 under the influence of good feed supplies from 1973.

The current Soviet food situation is much improved over what it was a year ago. Poor 1972 crops caused at least localized shortages of some foods. Faulty distribution may have been the main culprit. However, there were rumors, as yet unconfirmed, of rationing and increases in food prices. With the record 1973 levels of output, supplies of most crop and livestock products either recovered from the 1972 shortfalls or reached new high levels.

The major agricultural policies in effect in 1973 basically represented a continuation of those adopted earlier. Capital investment in agriculture amounted to 25.8 billion rubles, 9 percent more than in 1972 and 2 percent more than planned for 1973. Emphasis

[1]Tonnage figures are metric.

continued to be on improving the land and on supplying mineral fertilizers. A fifth of capital investments were for irrigation and drainage. Irrigation was completed on 980,000 hectares in 1973, and 900,000 hectares were drained. Similar increases are planned for 1974. Agriculture got 58 million tons of mineral fertilizers in 1973, a million tons more than planned, and is to receive almost 65 million tons in 1974. In addition, agriculture will be provided with large amounts of machinery, and large-scale livestock and poultry feeding complexes are being constructed.

Soviet agicultural trade is also expected to return to a more normal volume and pattern than in 1972/73. The USSR became a larger net agricultural importer in 1972/73 because of record amounts of grains and soybeans purchased abroad and because of significant decline in Soviet exports of agricultural products. The deficit in Soviet agricultural trade in 1972/73 probably reached the equivalent of several billion dollars. Following the 1973 harvests, the Soviet need for grain and oilseed imports was sharply reduced and agricultural exports can be increased to more normal levels.

The return of Soviet agricultural trade to a more normal pattern is expected to sharply reduce U.S. agricultural exports to the USSR. An estimated 7 million tons of U.S. grain are scheduled to be shipped to the Soviet Union in 1973/74. This grain apparently was purchased as a hedge against another poor harvest before the Soviets knew a record 1973 domestic crop was in prospect. Also, the improved Soviet oilseed situation makes it unlikely that significant purchases of U.S. soybeans will be made. However, if the Soviet grain and oilseed crops in 1974 should be adversely affected by weather, additional U.S. grain and soybean purchases by the USSR would be likely in the latter part of 1974.

SOVIET AGRICULTURAL PRODUCTION IN 1973

In 1973, agricultural output in the Soviet Union reportedly increased 14 percent over the 1972 level. This increase, one of the sharpest on record, was greater than the planned growth of 12.6 percent. Agricultural production was 9 percent above the previous record—set in 1971—and double the 1955 level. In the past two decades, increases of the size achieved in 1973 have occurred only twice: in 1964, when favorable weather facilitated recovery from a disastrous 1963 crop year, and in 1956, when good weather, together with the New Lands and Corn Programs, resulted in a high growth rate for agriculture.

Last year's sharp production increase was also largely the result of unusually favorable weather during the growing season, in sharp contrast to extremely adverse conditions the year before. Output in 1972 was almost 5 percent below the 1971 level, almost entirely because of a 9-percent decrease in crop production. Most of the 1973 increase in agricultural output, on the other hand, was due to record or near-record harvests of the major crops. Total crop production in 1973 is estimated to have been nearly a fourth larger than in 1972.

Weather during the 1973 growing season in the USSR was unusual because a shortage of moisture was not an important factor limiting crop yields or pasture growth in any major agricultural area. In most years, limited soil moisture impedes the development of crops and pasture grasses over sizable areas of agricultural regions in either the European part or the Asiatic part of the USSR. During the 1973 growing season, however, precipitation was above normal in both these parts of the Soviet Union. The principal exception was an April-June dry spell in the northeastern part of European USSR and in the Urals region. Precipitation in a number of important agricultural regions was sufficiently above normal so that, contrary to the usual experience, soil moisture actually increased as the season progressed. (Fletcher Pope, Jr.)

Grain

Gross 1973 grain production (including pulses) in the USSR was 222.5 million tons, nearly one-fifth larger than the previous record of 186.8 million tons harvested in 1970 (table 14).[2] Although additional inputs, expanded area, and improved technology contributed to the record grain crop last year, weather was the major factor. The 1973 harvest was 25 million tons more than the goal of 197.4 million tons and almost 55 million tons larger than the 1972 crop. These comparisons strongly suggest that the 1973 grain crop will probably not be exceeded for at least several years—unless, of course, the Soviet Union is again favored by unusually good weather in the major grain regions.

Despite the overall benefits of the good weather in 1973, there were certain negative effects. The quality of much of last year's grain crop was relatively low. Also, the amount of excess moisture and foreign matter reflected in the gross harvest figure is probably greater than normal. The relatively

[2]The Soviet gross grain production data as well as the grain yield data used in this report are in terms of "bunker weight"—that is, grain as it comes from the combines and thus containing varying amounts of moisture and foreign matter. All tons are metric.

abundant soil moisture and probably the increased use of fertilizer caused rather extensive lodging of small grains, thus complicating harvesting operations. In addition, precipitation was extensive and frequent when the grain was being harvested. However, the lag between the cutting and threshing operations—or the amount of unthreshed grain lying in windrows—never became excessively large (that is, not significantly larger than the weekly rate at which the grain was being cut). Thus, it appears likely that the amount of grain left lying in windrows until the grain had seriously deteriorated in quality was not large and probably was confined to certain areas from the central part of European USSR eastward through the Urals.

Heavier fertilization undoubtedly contributed to the record grain harvest. The Soviets planned to use 26 million tons of mineral fertilizers on grain in 1973, roughly a fourth more than in 1972. Although the amount actually used on grain last year has not been revealed, planned production and deliveries to agriculture of mineral fertilizers were met. Furthermore, for the first time, increased fertilization was reported as a contributing factor to higher yields in the New Lands, which are mainly in the Asiatic part of the USSR.

Soviet grain area expanded 6 percent in 1973, also contributing to the record crop. Almost 127 million hectares were harvested—over 6 million more than the 1968-72 average. Area seeded to winter wheat and winter rye was about 20 percent below the planned area, primarily because of dry soil conditions in the fall of 1972. However, unusually mild weather during the 1972/73 winter minimized damage to the grain. An early spring permitted not only the shortfall in winter grain area to be made up but also the planned overall expansion in grain area to be carried out. The spring wheat area was expanded somewhat to help offset the effect of the reduced winter wheat area on the harvest. However, the feed grain area benefited the most from the expansion in grain area. Feed grains (barley, oats, and corn) occupied 45 million hectares in 1973, compared with an average of 36 million in 1968-72. For barley, the figures are 29 million and 22 million hectares, respectively.

Soviet 1973 gross grain yields were records, not only for grain as a whole but for each of the major grains. Overall grain yields, as well as wheat and corn yields, were more than one-tenth above previous records, which were realized during the period 1969-71. However, barley yield was only moderately higher than in 1970 and oat yield, slightly lower. A projection of the 1957-71 trend in overall Soviet grain yields reveals that the 1973 yield was roughly 15 percent above trend, mainly because of above-trend wheat yields.

The USSR's wheat output in 1973 totaled 109.7 million tons, accounting for roughly half the total grain output. The 1973 wheat harvest was one-fourth above the 1972 harvest and about a tenth larger than previous bumper wheat crops.[3] Winter wheat accounted for an estimated 44 percent of the total wheat crop, a proportion somewhat higher than normal despite the somewhat smaller area. Feed grain production (barley, oats, and corn) was about 86 million tons, by far the largest ever—harvests in 1970-72 averaged 60 million tons. Gross corn output was announced as 13.4 million tons. Rice output totaled 1.8 million tons.

The Soviet Government purchased 90 million tons (accounting-weight basis)[4] of grain from the farms in 1973 or 40 percent of the 222.5-million-ton (gross or bunker-weight basis) domestic crop (table 1). The 1973 grain purchases were 50 percent larger than the amount purchased from the relatively small 1972 crop and 15 million tons larger than the previous record purchases, which were made in 1966. Although the percentage of the 1973 grain crop purchased by the Government was somewhat larger than the 1968-72 average of 37 percent, 132 million tons (gross weight) of grain were left on the farms last year, compared with the previous record of 117 million tons in 1971.

The record 1973 harvest will significantly relieve the Soviet grain situation. If the goal of 197.4 million tons represented USSR grain requirements in 1973/74, as seems reasonable, then Soviet officials are free to decide on the disposition of some 20-25 million tons of grain from the 1973 crop. This grain could be used (1) to rebuild stocks, (2) to increase feed use of grain above that originally planned, and/or (3) to expand exports. Although feed use and exports probably will benefit from this improvement in Soviet grain supplies, the rebuilding of grain stocks is expected to be given high priority. The huge 1972/73 Soviet grain purchases suggest that carryover stocks at the beginning of the 1972 harvest were minimal. (Fletcher Pope, Jr.)

Technical Crops

Sunflowers

USSR sunflowerseed production, which had declined steadily since 1968, recovered in 1973, reaching a record 7.34 million tons (table 15). This was 10 percent above the record 1968 level and 45

[3]As a result of the new U.S.-USSR agreement on cooperation in agriculture, the Soviets are releasing more agricultural information, and releasing it earlier, than in the past.

[4]Data on Government grain purchases are in terms of accounting weight; that is, the weight of the grain as delivered by the farms to the Government is adjusted as necessary to arrive at the equivalent of grain with a standard moisture and foreign-matter content.

Table 1--Grain: Production and distribution, USSR, averages 1961-70, annual 1970-73

Item	Averages 1961-65	Averages 1966-70	1970	1971	1972	1973
	Million tons					
Gross production	130.3	167.6	186.8	181.2	168.2	222.5
Left on farms 1/	78.7	101.6	113.5	117.1	108.2	132.4
Government procurements	51.6	66.0	73.3	64.1	60.0	90.1
Net trade 2/	-1.5	-5.0	-7.2	+1.3	+18.7	+4.7
Government supplies 3/	50.1	61.0	66.1	65.4	78.7	94.8

1/ Gross production less government procurements.
2/ Minus indicates net exports and plus net imports.
3/ Government procurements adjusted for net trade but not adjusted for stock changes.

percent above the poor 1972 crop, which had dropped sharply to the lowest level since 1963. The 1973 sunflower area was 4.75 million hectares—356,000 more than in 1972 but still somewhat below the 1966-70 average.

Government purchases of sunflowerseed from 1973 production are estimated at a record 5 million tons—one-third above the low level of purchases in 1972, but only slightly above the previous record—set in 1968.

The low level of Government sunflowerseed purchases in 1972 was one reason for an 8-percent drop in vegetable oil output (from Government oilseed supplies) during September 1972-August 1973 (table 2). This decline occurred despite the USSR's purchase of 1 million tons of U.S. soybeans in August 1972. Vegetable oil processed from these soybeans totaled about 180,000 tons. Hence, the decline in USSR vegetable oil production was probably also due to a drop in the oil content of the sunflowerseeds from the drought-damaged 1972 crop.

As a result of early processing of sunflowerseeds from the record 1973 crop, an increase in cottonseed from the record 1973 cotton crop, plus a recovery in the Soviet soybean crop, vegetable oil production during September 1973-January 1974 rose 13 percent above the corresponding period in 1972, apparently reaching a record level for this period. Based on raw materials available, it is expected that total vegetable oil output during September 1973-August 1974 will reach a record level. (Angel O. Byrne)

Sugarbeets

Sugarbeet production in 1973 increased for the second consecutive year, reaching 86.8 million tons (table 15). The crop, 14 percent higher than the 1972 output, was the largest since 1968 but below the planned level.

Sugarbeet area in 1973 totaled 3.55 million hectares, almost equal to the 1966-70 average. Following the introduction of new incentives early in 1972 to boost sugarbeet production, the sugarbeet area has increased by about 230,000 hectares.

Government sugarbeet purchases in 1973 reached a near-record level of somewhat over 82 million tons, almost a fourth more than the average annual purchase of the previous 2 years. Sugar production from the 1973 sugarbeet crop is estimated at roughly 9 million tons, compared with 7.3 million tons from the 1972 crop. This increase of a fourth in beet sugar production is slightly larger than the increase in sugarbeet procurements. In the Ukraine, which supplied about half the sugarbeets purchased by the Soviet Government last year, the sugar content of the beets from the 1973 crop was 1 percent higher than that from the 1972 crop. Total sugar production, including processings from imported raw sugar,

Table 2--Vegetable oil: Production from oilseeds purchased domestically and imported, USSR, monthly and cumulative, Sept.-Aug. 1969/70-1973/74

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
						1,000 tons						
1969/70												
Monthly	145	254	265	285	220	198	208	185	173	154	114	53
Cumulative		399	664	949	1,169	1,367	1,575	1,760	1,933	2,087	2,201	2,254
1970/71												
Monthly	168	281	289	297	259	231	237	220	225	207	124	77
Cumulative		449	738	1,035	1,294	1,525	1,762	1,982	2,207	2,414	2,538	2,615
1971/72												
Monthly	170	286	291	298	229	221	233	212	211	205	119	55
Cumulative		456	747	1,045	1,274	1,495	1,728	1,940	2,151	2,356	2,475	2,530
1972/73												
Monthly	206	276	287	306	202	179	209	174	173	161	102	45
Cumulative		482	769	1,075	1,277	1,456	1,665	1,839	2,012	2,173	2,275	2,320
1973/74												
Monthly	195	312	313	329	292							
Cumulative		507	820	1,149	1,441							
1974/75												
Monthly												
Cumulative												
1975/76												
Monthly												
Cumulative												

reached 10.7 million tons in calendar year 1973, compared with 8.9 million tons in 1972. (Angel O. Byrne)

Cotton

In 1973, the USSR produced its fourth record cotton crop in succession. Output totaled 7.66 million tons (unginned), 5 percent higher than in 1972 (table 15). This record was achieved despite rain and low air and soil temperatures during part of the growing season, and despite rain, low temperatures, and earlier than usual frost during the harvest period in some cotton areas of Soviet Central Asia. The 1973 cotton crop will yield about 2.6 million tons of lint, up from 2.5 million tons of lint from the 1972 crop. Cottonseed from the 1973 crop will total about 5 million tons, compared with 4.7 million from the 1972 crop.

The 1973 cotton area, at 2.7 million hectares, was about the same as the area planted in 1972. During 1973, however, the Soviets began development of two new cotton areas in Southern Uzbekistan, the major cotton producing republic in the USSR. The new irrigation area in the Karshi Valley is planned to reach 85,000 hectares by 1975, yielding 100,000 tons of cotton; 215,000 hectares by 1980, yielding 400,000 tons; and in the final stage (probably sometime in the last half of the 1980's) 900,000 hectares, yielding 1.3 million tons. The new irrigation area in the Dzhizak Valley is planned to reach 58,000 hectares in the next few years, and eventually a total of 180,000 hectares. Upon completion—again probably sometime in the 1980's—the area is planned to produce 250,000 tons of cotton annually.

Soviet cotton production in recent years has been running well ahead of planned goals. In 1973, for example, cotton production exceeded the 6.8-million-ton goal by 13 percent. Realization of the planned total cotton area of more than 3 million hectares by 1975, while maintaining the reported average yield of 26.7 centners per hectare for 1971-73, could raise cotton production to slightly over 8 million tons by the end of the current 5-year plan period. (Angel O. Byrne)

Potatoes and Vegetables

Potato production in 1973 reached a record 107.7 million tons, 38 percent higher than the sharply reduced 1972 output and 5 percent above the previous record of 102.2 million tons in 1968 (table 15).

Vegetable output also was a record, following a 4-percent decline in 1972. The record crop of 24.5 million tons was 23 percent above the 1972 output and 16 percent higher than the previous record of 21.2 million tons in 1970. (Angel O. Byrne)

Livestock

Except for pork, livestock production in the Soviet Union was up in 1973, largely because of the exceptional improvement in the feed supply situation. For all major livestock products, output was above the levels indicated in the revised annual plan—announced early in 1973—but below the original 1973 targets (except for eggs) established in the Ninth Five-Year Plan (1971-75). Actual 1973 performance compared with the original and revised targets is shown in table 3.

Livestock Products

Total meat production in 1973 remained slightly below the 1972 level, but output of milk and eggs increased sharply. Compared with the revised goals for 1973 meat and egg output was well above the targets and milk production, moderately above the target.

Production of beef, poultry, and mutton apparently made gains in 1973. (Official data are not available on the production of meat by type.) However, pork production remained below that of the previous 2 years, primarily because of a decline in hog numbers in 1972 (including a small drop in sow inventories), and reduced slaughtering connected with efforts to rebuild depleted herds.

The sharp uptrend since the mid-1960's in poultry meat and egg production continued in 1973. Milk production, after having stagnated since 1968, made an impressive gain. Wool output nearly regained the previous record level. Comparative data on all major livestock products are shown in table 4.

Industrial processing of Government-held meat, which accounts for most off-farm slaughter and about three-fifths of total production, declined about 5 percent in 1973. Meat from on-farm livestock slaughterings increased, however, reversing the downtrend of the previous 3 years. Compared with 1972, the principal slumps in industrial processing in 1973 occurred in the first and third quarters. The unfavorable third quarter comparison, however, is mainly attributable to excess drought-induced slaughter in 1972.

In 1973, Government purchases of milk increased 10 percent and egg purchases, 14 percent. Results in all quarters were better than in 1972, but the greatest gains occurred during the second half of the year. Most of the increase in Government milk holdings was allocated to butter manufacture, which jumped 15 percent to 1,245,000 tons (excluding about 100,000 tons of farm production). The sharp increase in domestic butter production probably provided self-sufficiency at a slightly higher level of butter consumption, thus forestalling any immediate need

Table 3--Livestock products: Original and revised plans and actual output, USSR, 1973

Product	Plans		Actual
	Original 1/	Revised 2/	
	Million tons		
Meat	14.3	12.9	13.5
Milk	92.1	86.2	87.2
Wool	0.46	0.43	0.43
	Billion eggs		
Eggs	46.8	47.5	50.8

1/ Original five year plan goals for 1973.

2/ Revised plan goals announced early in 1973.

for further imports. Government purchases of major livestock products are given in table 5. (David M. Schoonover)

Livestock Numbers

Inventories of cattle, sheep, and poultry on January 1, 1974, were at record levels (table 6). Hog inventories increased 5 percent, but failed to regain the 1972 peak level. Cattle numbers—up 2 percent—continued the steady growth of recent years, but there was only slight growth in cow herds. Most of the gain occurred in holdings of young and fattening stock. Combined sheep and goat inventories also were up 2 percent. Sheep inventories finally recovered from the major winter losses of 1969 and the less severe losses of 1972. Poultry numbers are estimated at 740 million, based on a 41-million jump between December 1, 1973, and year-earlier holdings on collective and state farms. Private holdings of cattle as well as sheep and goats declined slightly, while those of hogs recovered slightly. The major growth in livestock numbers occurred on the socialized farms. The program to shift livestock production to large-scale specialized farms continued during 1973, but individual state and collective farms remained the principal centers of livestock production in the USSR.

Although growth in livestock numbers has accounted for much of the increased output of livestock products in recent years, improved animal performance was also important in 1973. Milk yield per cow jumped 4 percent over the 1972 level, while January 1, 1974 cow inventories were 1 percent above year-earlier inventories. Egg-laying rates increased 5 percent on socialized farms in 1973. Average slaughter weights of cattle and hogs have improved markedly since the mid-1960's, but a leveling-off may have occurred as a result of the tight feed situation during 1972/73. (David M. Schoonover)

Feed Situation

The feed situation in early 1973 reflected the 1972 crop failures. Supplies of roughages, especially silage and hay, were tight in drought-affected areas, although these shortages were somewhat offset by the excellent crops in Siberia. Quantities of potatoes for feeding were sharply reduced. Grain availabilities for feeding were boosted by imports and are believed to have been at least as great as during the previous winter.

In late 1973, total feed supplies were at record levels. The record grain crop in 1973 will permit a sharp increase in quantities of grain fed. It is estimated that in 1973/74, the amount of grain used for feed will increase by 5 million to 10 million tons over the 1972/73 level. Oilmeal availabilities also will increase substantially in 1973/74, but the overall level of digestible protein in rations will remain low. Industrial mixed feed output totaled 32 million tons

Table 4--Livestock products: Production of principle items, USSR, average 1966-70, annual 1966-73

Year	Meat						Milk	Wool 2/	Eggs
	Total	Beef & veal	Pork 1/	mutton, lamb&goat	Poultry	Other			
	1,000 tons								Millions
1966	10,704	4,377	4,465	933	745	184	75,992	371	31,672
1967	11,515	5,081	4,456	1,028	764	186	79,920	394	33,921
1968	11,648	5,513	4,079	1,029	817	210	82,295	415	35,679
1969	11,770	5,569	4,094	969	866	272	81,540	390	37,190
1970	12,278	5,393	4,543	1,002	1,071	269	83,016	419	40,740
1966-70 Av.	11,583	5,187	4,327	992	853	224	80,553	398	35,840
1971	13,272	5,536	5,277	996	1,183	280	83,183	429	45,100
1972	13,633	5,767	5,361	927	1,230	348	83,181	420	47,910
1973	13,500	3/5,900	3/5,000	3/1,000	3/1,300	3/300	87,200	428	50,800
1974									
1975									
1971-75 Av.									

1/ Including pork fat.
2/ Greasy basis.
3/ Estimates.

Table 5--Livestock products: Government purchases from farms, USSR, 1971-73

Product	1971	1972	1973
		1,000 tons	
Meat:			
Liveweight	14,163	15,023	14,700
Carcass Weight	9,203	9,672	9,500
Milk	47,078	48,444	53,000
Wool 1/	457	452	470
		Million eggs	
Eggs	21,570	24,299	27,600

1/ Accounting weight; actual weight (greasy basis) typically is 88-90 percent of the accounting weight.

Table 6--Livestock: Numbers on January 1, USSR, 1966-74

Year	Cattle		Hogs		Sheep	Goats	Horses	Poultry
	Total	Cows	Total	Sows				
				Million head				
1966	93.4	40.1	59.6	4.11	129.8	5.6	8.0	490.7
1967	97.1	41.2	58.0	3.81	135.5	5.6	8.0	516.3
1968	97.2	41.6	50.9	3.36	138.5	5.6	8.0	528.4
1969	95.7	41.2	49.0	3.30	140.6	5.6	8.0	546.9
1970	95.2	40.5	56.1	3.62	130.7	5.1	7.5	590.3
1971	99.2	41.0	67.5	4.04	138.1	5.4	7.4	652.7
1972	102.4	41.2	71.4	4.02	139.9	5.4	7.3	686.5
1973	104.0	41.7	66.6	3.95	139.1	5.6	7.1	700.0
1974	106.2	42.3	69.9	1/4.00	1/142.5	1/5.8	1/7.0	1/740.0
1975								

1/ Estimates.

in 1973, compared with 28 million tons in 1972. Collective and state farms increased their winter reserves of forage crops by the following quantities compared with 1972: haylage—14 million tons, silage—50 million tons, feed roots—6 million tons, and alfalfa meal—746,000 tons. Total 1972 production of haylage was 36 million tons and that of corn silage and green chop, 206 million tons. Farm supplies of hay, staw, and concentrates also reportedly were higher than in 1972. Haymaking was hampered by rainy weather in 1973. On the other hand, pasture conditions in 1973 were excellent as a result of the generally wet summer. (David M. Schoonover)

AGRICULTURAL POLICIES AND INPUTS IN 1973

The major Soviet agricultural policies in effect in 1973, aside from cropping and livestock production changes previously discussed, were mainly continuations from earlier years. Basically, these policies involve increasing the supply of agricultural inputs in order to raise output for meeting more of the country's needs, reducing per unit agricultural production costs, boosting farm incomes, and improving rural living conditions.

Priority in supplying agricultural inputs is given to mineral fertilizers and other chemical products used in agriculture, to irrigation and other land improvement measures, and to mechanization of crop and livestock production.

In meeting the country's needs for agricultural commodities, the emphasis is on more livestock products for improving the average diet. This mostly involves increasing the supply of feed, but efforts are also being made to increase and improve facilities for raising livestock. The number of large-scale interfarm complexes is increasing, expecially those for feed preparation and feeding. Interfarm enterprises have been developing in the USSR for several years, but they have not received much publicity until recently, even in the USSR. Many Westerners are just beginning to learn about them.

Investments

Capital investment in agriculture in 1973 by Government agencies and collective farms amounted to 25.8 billion rubles, 26 percent of the total for the whole economy. Last year's figure for agriculture compares with 23.7 billion rubles in 1972 and 21.9 billion rubles in 1971. The 1973 total, about 2 percent more than planned, consisted of 16.4 billion rubles from Government agencies and 9.4 billion from collective farms. The Government's investment was equal to that planned and was 9 percent higher than that realized in 1972. The capital investment by collective farms last year was 4 percent more than planned and 8 percent larger than in 1972.

Information has not yet been released showing how these capital investments were allocated, except for the amount going to land improvement. Undoubtedly, sizable amounts went for facilities for livestock production and storage of farm products, as indicated in the plans for 1973. (Roger S. Euler)

Land Improvement

More than 5 billion rubles of the Government and collective farm capital investments last year reportedly went for land improvement, 15 percent more than in 1972. Plans for 1973 called for a 16-percent increase in such investment.

Irrigation of 980,000 hectares was added last year, nearly 40 percent more than planned. The Saratov irrigation canal in the Middle Volga was completed and the first stage of the Krasnodar reservoir in the North Caucasus was finished. In the South Ukraine, the first part of the Kakhovka irrigation system was begun. When completed—some years from now—this system will irrigate about a million hectares and will be the largest on the European continent. Also in 1973, irrigation systems were reorganized over an area of 400,000 hectares, and the condition of existing irrigation was improved on 350,000 hectares. Of the irrigated land in the USSR, about 44.5 percent is in Central Asia, 15.6 percent is in the Transcaucasus, and about 12.3 percent is in Kazakhstan. However, the share of the total (three-fourths in 1973) accounted for by these traditional irrigated areas has been declining for at least a decade, and increasing in the newer irrigated areas in the Russian Federation, the Ukraine, and Moldavia.

Drainage was completed on more than 900,000 hectares of wet land in 1973. The goal for such work was 911,000 hectares. Three-fourths of all drained land is in the Baltics, the northern district of the Russian Federation, and Byelorussia. About 16 percent is located in the Ukraine.

The new irrigated and drained areas were not net additions to the USSR's total irrigated and drained land. An unspecified amount of such land is taken out of use each year so that facilities can be repaired and other changes made. At the end of 1972, the USSR had 12 million hectares of irrigated land and 11.4 million hectares of drained land. (Roger S. Euler)

Other Major Inputs

Fertilizers supplied to agriculture last year totaled 58 million tons (standard gross weight), a million tons more than planned. This amount was 80 percent of total 1973 production of mineral fertilizers, a little

higher than in 1972. During 1970-72, fertilizer deliveries to agriculture totaled 162 million tons, about equal to the amount planned. Last year's total was 26 percent larger than the amount supplied in 1970, indicating the current importance being attached to this key input. Production and delivery to agriculture of mineral fertilizers, in pure nutrient terms, are shown in table 7. Manufacturing capacity for producing an additional 8.9 million tons of fertilizer annually was added last year.

Machinery deliveries to agriculture were generally up in 1973, but some of the known plans were not fulfilled. A total of 322,000 tractors were supplied, about 3 percent more than in 1972, but 2 percent below plan. Factory capacity for building an additional 27,100 tractors annually was completed. Trucks and special automotive vehicles delivered to agriculture in 1973 numbered 225,000, an increase of 20 percent and slightly more than the goal. Only 82,000 grain combines were supplied, 10,800 fewer than in 1972 and 12,000 less than scheduled. Only 46 percent were the newest and higher capacity models, instead of the 66 percent planned, which indicates there were production problems. Forage choppers totaled 61,000, up 5.600 from the previous year and a little above the target. Some data on deliveries and inventories of tractors, trucks, and combines are shown in table 8.

Although planned totals were not revealed, the 1973 numbers supplied to agriculture were larger than those in 1972 for cultivators, seeders, swathers, mineral fertilizer spreaders, tractor rakes, pickup balers, irrigation sprinklers, sugarbeets diggers, potato diggers, and corn pickers. For manure spreaders, deliveries equaled the previous year's number. Deliveries were down for tractor plows, mowers, loaders, milking machines, discs, grain cleaners, and cotton pickers. (Roger S. Euler)

Interfarm Complexes and Projects

Joint farm activities of various kinds were mentioned by the Soviet press more often in 1973 than previously. While the available information is not specific enough to separate the interfarm enterprises from regular farm enterprises, it seems clear that the number and scope of interfarm activities increased again last year and are important in some areas, but unimportant or nonexistent in others. It also appears that one of the most common joint ventures is for livestock raising and feeding, but other activities mentioned include feed preparation, manufacture of building materials, construction, fertilizer production, land improvement, forestry, and growing and processing fruits and vegetables.

The Soviet press statements indicated that joint farm activities were significant and successful in Moldavia; in Tambov, Penza, Belgorod, Lipetsk, and Voronezh Oblasts and Krasnodar Kray in the Russian Federation; and in "many" unnamed oblasts in Byelorussia and the Ukraine. Press comment also showed that such development in Moldavia has been all or nearly all in the collective farm sector, where joint effort accounts for all erosion control systems, nearly all of the capital construction, over two-thirds of the market production of meat and eggs, and some growing and processing of fruits and vegetables. Intercollective farm feeding of hogs and cattle began in 1960-61 at sugar refineries, where the farms used sugarbeet pulp and other byproducts, and later developed to include related mixed feed plants. In Tambov Oblast, interfarm cooperation in livestock production is said to be especially well developed. In late 1973, joint ventures involved 104 state farms and 290 of the 296 collective farms in the area.

In 1973, Government and collective farm investment permitted construction of large-scale poultry housing for 28 million birds and additional facilities for 5 million cattle, about 5 million hogs, and 6 million sheep. However, probably only a fraction of the livestock facilities were for interfarm complexes and projects. It was also reported that seven, widely located "government" complexes for raising and fattening livestock were completed last year. Three of the complexes each have an annual capacity for 108,000 hogs. One complex, identified as a state farm, has a 52,000-hog capacity. The other three complexes were identified as having annual capacities for 36,000 hogs, 21,000 hogs, and 10,000 young cattle. Other new complexes were referred to but not described. Some of these possibly were interfarm complexes. Also announced was expansion of poultry farm capacity to accommodate 12 million more laying hens and 30 million more birds for meat production per year. This very likely refers to specialized state farms in the Ptitseprom system.

The Government's intentions for the eventual form and function of these interfarm relationships are still unclear. A few recent reports have indicated that these joint ventures, financed by the farms involved and by state loans, may be developed to eventually replace the traditional structure of state and collective farms. However, other information shows that participating farms have retained their individual identities and will continue to do so in the future. What does appear certain is that interfarm complexes and projects of different kinds show variations from one area to another, that they will continue to grow in places, and that farms involved may be all of one kind or a mixture of state and collective farms. (Roger S. Euler)

Table 7--Mineral fertilizers: Production and deliveries to agriculture, USSR, average 1966-70, annual 1950, 1960, 1966-73, and 1975 plan 1/

Year	Production	Deliveries to agriculture					Total deliveries per hectare of cultivated land
		Percent of production	Total	Nitrogen	Phosphate	Potash	Ground rock phosphate	
	1,000 tons	Percent	1,000 tons					Kilograms
1950	1,236	102	1,261	307	442	422	90	7.3
1960	3,281	80	2,624	769	823	766	265	12.2
1966	8,414	83	6,992	2,656	1,664	1,902	761	31.8
1967	9,399	82	7,746	3,089	1,697	2,136	814	35.1
1968	10,212	81	8,273	3,454	1,748	2,176	886	37.5
1969	10,731	83	8,885	3,798	1,916	2,319	850	40.3
1970	13,099	79	10,368	4,605	2,211	2,574	973	47.0
1966-70 av.	10,371	82	8,453	3,520	1,847	2,221	857	38.3
1971	14,670	78	11,451	5,182	2,541	2,788	934	51.4
1972	15,900	79	12,530	5,624	2,757	3,238	904	55.9
1973	17,400	80	2/13,900	NA	NA	NA	NA	2/61.2
1974								
1975								
1971-75 av.								
1975 (plan)	21,800	83	18,130	6,800	4,400	6,300	630	77

1/ In terms of plant nutrients. 2/ Estimated.

Note: Soviet fertilizer data are also published in terms of standard units which contain the following nutrients: Nitrogen = 20.5% N; phosphates = 18.7% P_2O_5; potash = 41.6% K_2O; and ground rock phosphate = 19% P_2O_5. Thus, to convert the above delivery data from plant nutrients to standard units, multiply by the following factors: Nitrogen = 4.88; phosphates = 5.35; potash = 2.40; and ground rock phosphate = 5.26.

Table 8--Tractors, trucks, and grain combines: Inventories 1/ and deliveries, USSR, averages 1956-75, annual 1966-73

Year	Tractors		Trucks 2/		Grain combines	
	Inventories	Deliveries	Inventories	Deliveries 3/	Inventories	Deliveries
	Thousands					
1956-60 av.....	994	149	700	96	470	76
1961-65 av.....	1,329	218	865	71	509	77
1966.....	1,660	276	1,017	106	531	86
1967.....	1,739	287	1,054	108	553	96
1968.....	1,821	290	1,097	114	581	97
1969.....	1,908	304	1,153	126	605	92
1970.....	1,977	309	1,206	126	623	97
1966-70 av.....	1,821	293	1,105	116	578	94
1971.....	2,046	313	1,243	137	639	99
1972.....	2,112	313	1,280	153	656	93
1973.....	NA	322	NA	NA	NA	82
1974.....						
1975.....						
1971-75 av.....						
1975 (Plan).....	2,520	---	1,650	---	---	---
1971-75 av. (Plan).....	---	340	---	4/185	---	109

NA = not available.
1/ End of year.
2/ Including tank trucks.
3/ Excluding specialized vehicles.
4/ Excludes an estimated 35,000 specialized vehicles.

FOOD SITUATION

During the first half of 1973, the USSR's food situation continued to reflect the effects of the poor 1972 agricultural year. Rumors and reports of food shortages, rationing, higher food prices, and lower food quality continued to persist through the early part of 1973, both in the Western press and apparently among the Soviet citizenry. To quell the rising publicity, top Soviet officials denied the reports. One form of "rationing" did occur, however, in that the Soviet Government become more stringent with allotments of food to domestic selling organizations. In the latter part of 1973, however, with prospects of a good agricultural year, the food situation appeared somewhat more normal. Most major industrial centers apparently had relatively satisfactory supplies of vegetables, fruits, bakery goods, and dairy products. However, meat supplies probably still remained below par, as compared with availabilities in the rural areas.

Per capita consumption in 1973 of most major food items is estimated to have remained at about the same level as in 1972 (table 9). Consumption of vegetable oil and sugar probably began picking up in the latter half of 1973. Deficiencies in the availability of vegetable oil and sugar during the first half of the year were further reflections of low outputs from the disappointing 1972 sunflowerseed and sugarbeet crops. Processings from large imports of oilseeds and sugar during 1973 did, however, help offset these deficiencies.

Per capita consumption of potatoes has declined gradually since 1965 because of the Soviet emphasis on higher protein food consumption. In 1972, potato consumption fell to its lowest level, primarily because of the serious shortfalls in potato production in 1971 and 1972. The 1972 shortfall was reflected strongly in the lower availability of potatoes during the early part of 1973.

Consumption of milk, milk products, and eggs probably increased significantly in 1973. Consumption of milk and milk products, which fell 2 percent in 1972 to the lowest level since 1968, probably reached a record level in 1973. Egg consumption, which has increased sharply since 1970, is believed to have continued on an upward trend in 1973, also reaching a record level.

Vegetable and fruit consumption, which fell in 1972, probably made the largest gains in 1973, as compared with consumption of other foods, and probably reached record levels.

The sharp increases in overall agricultural output during 1973 should improve the food situation in 1974 and increase per capita consumption of most foods. However, based on estimated 1973 per capita consumption, considerable improvements and increases still will be needed for the Soviets to fulfill their original 1975 per capita consumption goals—except for potatoes, cereal products, and eggs. Per capita consumption of meat and meat products must increase an average of 9 percent in both 1974 and 1975 to reach the 1975 goal of 59 kilograms per capita—which at this juncture does not appear likely. Similarily, consumption of milk and milk products must increase an average of 5 percent in both years to meet the 1975 goal, sugar consumption an average of 4 percent, and vegetable consumption an average of 7 percent. On the other hand, it is very probable that the 1975 goal for per capita consumption of eggs was reached and possibly surpassed in 1973. (Angel O. Byrne)

SOVIET AGRICULTURAL TRADE

In 1972 and 1973, agricultural products probably accounted for roughly a fourth of total Soviet imports and for about a tenth of total exports. Farm imports, particularly grains, in calendar years 1972 and 1973 were sharply above previous totals because of the poor 1972 agricultural year. Farm exports decreased significantly in 1972 and probably continued at a low level through most of 1973.

During 1967-71, agricultural commodities made up 19-22 percent of total Soviet imports and 12-15 percent of total exports. Farm imports as a share of total imports do not show a significant trend for 1967-71. But the importance of agricultural products in total exports trended downward during the period, decreasing from some 15-17 percent in 1966-68 to about 10-12 percent in 1970-72.

Recent increases in Soviet agricultural imports and decreases in farm exports have enhanced at least temporarily the role of the USSR as a net importer of agricultural products. Net agricultural imports in 1972 may have been on the order of $2 billion and in 1973, perhaps about double that amount. According to data published in the FAO *Trade Yearbook 1972*, net Soviet imports of food and agricultural products during 1966-71 averaged about $600 million, ranging from about $250 million in 1968 to a little over $1 billion in 1970.[5] (Fletcher Pope, Jr.)

Grain

Much of the recent increase in Soviet net agricultural imports is attributable to large grain purchases. The Soviets bought about 9 million tons of grain abroad in calendar year 1971 and roughly 28 million tons in calendar year 1972. Probably in view

[5]FAO used the former official Soviet exchange rate of .9 ruble equals $1.00 in converting official Soviet trade data in rubles into U.S. dollars.

Table 9--Selected food products: Per capita consumption, USSR, average 1966-70, annual 1950, 1960, and 1966-73, plan 1975

Year	Meat and fat	Fish and fish products	Milk and milk products 1/	Eggs	Sugar	Vegetable oil	Potatoes	Grain 2/	Vegetables and melons	Fruits and berries
	Kilograms			No. of eggs	Kilograms					
1950	26	7.0	172	60	11.6	2.7	241	172	51	11
1960	40	9.9	240	118	28.0	5.3	143	164	70	22
1966	44	12.9	260	132	35.3	6.3	135	153	73	NA
1967	46	13.2	274	138	36.7	6.5	131	150	80	NA
1968	48	14.3	290	144	37.4	6.5	131	149	80	NA
1969	47	15.3	304	148	37.8	6.6	131	149	76	NA
1970	48	15.4	307	159	38.8	6.8	130	149	82	35
1966-70 av.	47	14.3	286	144	37.2	6.5	132	150	78	NA
1971	50	14.8	301	174	39.5	7.0	128	149	85	39
1972	51	15.1	296	185	38.8	6.9	121	145	80	36
1973 3/	50	15.1	308	193	40.0	7.0	125	145	95	40
1974										
1975										
1971-75 av.										
1975 plan	59	22	340	192	43	9.0	120	148	109	50

NA = not available.
1/ Including milk equivalent of butter.
2/ Flour equivalent.
3/ Estimates.

Table 10--Grain: Foreign trade, USSR, 1971/72- 1973/74

Item	1971/72	1972/73	1973/74 1/
		Million tons	
Wheat:			
Exports	5.8	1.3	5.0
Imports	3.4	14.9	4.1
Net trade 2/	-2.4	+13.6	-.9
Rye:			
Net trade 2/	-.2	+.4	+.4
Feedgrains:			
Exports	.7	3/	.5
Imports	4.3	5.6	5.0
Net trade 2/	+3.6	+5.6	+4.5
Rice, Milled:			
Net trade 2/	+.3	+.3	+.3
Total Grain:			
Exports	6.7	1.3	5.5
Imports	8.0	21.2	9.8
Net trade 2/	+1.3	+19.9	+4.3

1/ Estimates.
2/ Plus equals net imports and a minus, net exports.
3/ Less than 50,000 tons.

of these large grain purchases, Soviet officials excluded from the data published in their latest foreign handbook, *Vneshnyaya Torgovlya SSSR za 1972 god*, statistics on calendar year 1972 imports or exports of total grain, wheat, rye, barley, oats, or corn (see table 16 and table 17).

Soviet grain trade has changed drastically in the past several years. During the eighth 5-year plan (1966-70), the Soviets were net exporters of roughly 25 million tons of grain. However, during the first 3 years of the ninth 5-year plan (1971-75), net grain imports probably totaled about 25 million tons.

The Soviet Union has been a net grain importer in each of the past 2 trade years to supplement domestic feed production for the expanding livestock industry (table 10). In 1971/72, when the Soviet Union was both an important grain importer and exporter, its net imports were relatively small. That year, most of the grain exports, primarily wheat, went to fulfill commitments under bilateral trade agreements, mostly with other Communist countries. Grain imports were made to supplement domestic production even though the 1971 grain crop was second only to the 1970 bumper harvest. The record Soviet grain imports in 1972/73 and the reduced exports were directly attributable to the relatively poor 1972 grain crop and the Soviet commitment to expand livestock output.

The Soviet Union is probably continuing as a net grain importer in 1973/74 because the grain being imported was purchased, perhaps as an insurance measure, before the record 1973 harvest was in prospect. In fact, Soviet grain crop prospects were not too good early in 1973. Because of dry weather only 80 percent of the planned winter grain was seeded and insufficient snow cover made the winter grain vulnerable to damage if severe cold had occurred. (Fletcher Pope, Jr.)

Oilseeds and Products

The USSR's imports of oilseeds and products have increased in recent years because of shortfalls in domestic oilseed crops other than cotton. The declines

in sunflowerseed production were particularly severe. Soviet oilseed imports shot up to almost 380,000 tons in calendar year 1972 from an average of about 50,000 tons in 1966-71 (table 16), largely because of deliveries from the million tons of U.S. soybeans purchased that year. Oilseed imports in 1973, which would include the balance of those purchases probably totaled roughly 650,000 tons. Edible vegetable oil imports averaged 63,000 tons in 1970-72, compared with an average of 35,000 tons in 1966-69.

Soviet exports of oilseeds and products have decreased in recent years because of the poor crops, with oilseed and cake and meal exports more drastically affected than vegetable oil exports. Oilcake and meal exports in recent years have been only about 15 percent of exports in the late 1960's and oilseed exports only about a third as much (table 17). On the other hand, vegetable oil exports in 1970-72 averaged about 400,000 tons, compared with roughly 700,000 in the late 1960's. The very poor 1972 oilseed crops probably caused a further curtailment of Soviet oilseed and product exports in calendar 1973. (Angel O. Byrne)

Sugar

The Soviet Union is both a major importer and exporter of sugar. Since 1965, raw sugar imports have generally been between 1.5 million and 2.5 million tons, while in most years, exports of refined sugar have been slightly more than a million tons. However, in calendar 1972, sugar exports fell to 50,000 tons.

Soviet sugar imports, raw value, during calendar 1972 totaled almost 2 million tons, almost a third higher than in the previous year. The large increase was attributed to below average crops in 1971 and 1972, lower raw sugar availability from Cuba (thus necessitating large purchases on the world market), and the need to rebuild heavily drawn-down stocks.

From latest available data, Soviet sugar imports, raw value, during January-June 1973 totaled 2.1 million tons, including 1.2 million from the improved 1972/73 Cuban crop. Total sugar imports from Cuba during calendar 1973 were estimated at 1.5 million tons (36 percent above the low imports in 1972 and close to 50 percent below peak imports in 1970). Thus, total calendar year 1973 Soviet sugar imports, raw value, both from the world market and traditional suppliers, probably reached about 2.5 million tons. (Angel O. Byrne)

Cotton

The Soviet Union is an important cotton exporter as well as a cotton importer. Cotton exports go mainly to other Communist countries, particularly those in Eastern Europe, while the cotton imports originate primarily in the Middle Eastern countries, including Egypt, the Sudan, and Syria. Soviet exports of cotton fiber have been trending upward in recent years and totaled about 650,000 tons in 1972, while imports have averaged about 150,000 tons with no clear trend evident.

Availability of cotton lint from the 1972 and 1973 crops totaled close to a half-million tons more per year than estimated domestic utilization in 1973 and projected utilization in 1974 (table 11). Supplies available for domestic use—which had trended upward for several years, reaching a peak in 1971—dropped 7 percent in 1972 because of heavy net exports. Based on the excess of lint cotton production in 1973 over estimated 1973 domestic utilization, the USSR could have been a net exporter of more than 450,000 tons of lint cotton in 1973 if no change in carryover stocks was made.

In calendar year 1972, Soviet lint cotton exports rose almost a fifth to a record level, as compared with only a 6-percent increase in 1971. Lint cotton exports in 1971 did not equal the 1968 volume despite another bumper cotton crop in 1971. However, net exports of lint cotton increased almost a fifth in 1971 and rose by a record 60 percent in 1972. Decreases in lint cotton imports in 1971, and particularly in 1972, have contributed to the net export position of the USSR. A continuation of recent trends in exports and imports would have resulted in a further increase in net exports of lint cotton by the USSR in 1973. (Angel O. Byrne)

U.S. Agricultural Trade with the USSR

Grains have been by far the major component in U.S. agricultural exports to the Soviet Union in recent years. Grains accounted for 94 percent of the $157 million worth of U.S. agricultural commodities exported to the USSR in U.S. fiscal year 1972 and for 84 percent of the $955 million worth shipped in fiscal 1973 (table 12). Grain declined in relative importance in the fiscal 1973 exports because of large shipments—$134 million worth—of soybeans to the USSR.

U.S. agricultural exports to the Soviet Union during July-December 1973 totaled $331 million, slightly more than the $316 million for the corresponding period in 1972. Grain is expected to continue to be of primary importance in our fiscal 1974 agricultural exports to the USSR because it is quite unlikely that the Soviets will purchase any additional soybeans for delivery by June 30, 1974. U.S. agricultural exports to the Soviet Union, other than the recent grain and soybeans purchases, have generally ranged between $10 million and $20 million and consisted mainly of cattle hides.

The United States has supplied about 60 percent of the grain imported by the Soviet Union in recent years. Other major suppliers have been Canada, Australia, and France. In fiscal 1972, grain shipments to the USSR consisted entirely of feed grains—about 3 million tons. In fiscal 1973, wheat accounted for over two-thirds of the 13.4 million tons

Table 11--Cotton lint: Production, trade, and estimated utilization, USSR, average 1966-70, annual 1966-74

Year	Production 1/	Imports	Exports	Net exports	Supplies available for domestic utilization 2/	Estimated domestic utilization 3/	Calculated stock changes
	1,000 tons						
1966	1,937	173	503	330	1,607	1,571	+36
1967	2,056	144	534	390	1,666	1,629	+37
1968	2,040	137	554	417	1,623	1,688	-65
1969	1,995	170	452	282	1,713	1,746	-33
1970	1,915	258	516	258	1,657	1,805	-148
1966-70 av. 4/	1,989	176	512	335	1,653	1,688	-35
1971	2,343	243	547	304	2,039	1,864	+175
1972	2,380	167	652	485	1,895	1,922	-27
1973	2,450	NA	NA	NA	NA	1,981	NA
1974	5/2,600	NA	NA	NA	NA	2,040	NA
1975							
1971-75 av.							

NA = not available.
1/ Lint cotton produced from crop harvested in the previous year. One ton of lint cotton equals 4.593 bales of 480 pounds each.
2/ Production minus net exports.
3/ Linear 1961-1972 trend of supplies available for domestic utilization.
4/ Averages do not add due to rounding.
5/ Estimated at 34 percent of 1973 cotton crop.

of grain shipped. During the 1973/74 trade year, feed grains are expected to account for well over half of the estimated 7 million tons of U.S. grain scheduled to be shipped to the USSR. The Soviet Union has agreed that delivery of almost a million tons of U.S. wheat can be postponed until after July 1, 1974.

U.S. agricultural imports from the Soviet Union have been relatively minor. Since 1966/67, they have ranged from a low of about $550,000 worth in 1969/70 to a high of $4.6 million in 1972/73 but have averaged somewhat less than $3 million. Recently, furs have become increasingly important in the U.S. agricultural imports from the USSR, accounting for three-fourths of the total in 1972/73. (Fletcher Pope, Jr.)

Agricultural Trade Policy

The Soviet Union apparently made a very significant policy decision concerning foreign trade in grains and feeds about 3 years ago. The new policy apparently calls for imports to offset shortfalls in domestic production so that an ambitious livestock program may be maintained. This new policy explains the large purchases and imports of grain in recent years, when domestic crops were below planned levels. A decade ago, shortages of grain and other feeds resulted in "belt tightening" and distress slaughtering of livestock herds.

The new import policy has apparently weakened, at least in 1972 and 1973, the ability of Soviet officials to plan foreign trade in advance. In the past, tight control over foreign trade through a State trading monopoly generally permitted the Soviets to prevent imports from outrunning exports so that a favorable balance of trade was realized. According to official data, trade deficits during the 15-year period 1956-71 occurred only in 1960 and in 1964, and then were only

Table 12--Agricultural trade: U.S. exports and imports, USSR, 1966/67-1972/73

Commodities	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73
	Million dollars						
Exports:							
Wheat	0	0	1/	0	1/	0.7	563.9
Coarse grains	0	0	1/	0	0	146.2	236.8
of which corn	0	0	0	0	0	106.5	210.4
Soybeans	0	0	0	0	0	1/	134.4
Cattle hides	20.7	5.4	7.8	17.0	8.6	6.5	8.4
Fruits, nuts, and berries	0	0	0	0.2	1.1	1.2	3.9
All Others	0.6	0.8	1.6	0.6	2.7	2.4	7.7
Total	21.3	6.2	9.4	17.8	12.4	157.0	955.1
Imports:							
Hides and skins	0	0	0.2	0.1	2.4	2.7	3.6
Mushrooms	1/	0	1/	1/	1/	0.1	0
Liciorice root	0.6	0.6	0.4	0	0.1	0	0
Cotton linters	0.7	0.9	0.3	1/	0	0	0
Essential oils	0.2	0	0.1	0.1	0.1	0.1	1/
Spices	0	0	0	0	1/	0	0
All Others	2.0	1.4	0.9	0.2	0.3	0.2	1.0
Total	3.5	2.9	2.0	0.5	3.0	3.1	4.6

1/ Less than $50,000.

2/ Including furs.

on the order of 100 million rubles each year. Trade surpluses, on the other hand, ranged from about 900 million to 1.2 billion rubles annually from 1966 to 1971.[6]

However, in 1972, there was a trade deficit of about 600 million rubles. This abrupt change suggests that the large 1972 imports were not planned in advance. The huge grain purchases in July and August 1972, at least, probably were not included in the foreign trade plan. Soviet trade was in deficit in each quarter of 1972, with the largest deficit occurring in the fourth quarter. This strongly suggests that the trade deficit in 1973 probably was much larger than in 1972.

In addition, the Soviets generally have a favorable trade balance with other Communist countries and with the developing countries—which have accounted, respectively, for about 65 and 13 percent of trade turnover in recent years—but not with the developed countries. Consequently, surpluses have been accumulated on bilateral accounts, but deficits have occurred in convertible currencies. For example: in 1971, total exports exceeded total imports by 1.2 billion rubles; with the developed countries, there was trade deficit of almost 120 million rubles; while with other Communist countries and the developing countries, the Soviets had trade surpluses of about 750 million and 550 million rubles, respectively.

The durability or permanence of the new more liberal Soviet import policy is of great interest to exporters of grain and other feedstuffs. The Soviet Government's commitment to provide the citizenry with better diets through significantly larger supplies of livestock products per capita probably will require a continuation of the new policy. However, unfavorable hard currency trade balances and increasing indebtedness are negative factors or restraints which will continuously be weighed in foreign trade decisions. To date at least, the positive factor apparently has outweighed the negative factors and promises to do so in the foreseeable future. (Fletcher Pope, Jr.)

OUTLOOK FOR 1974

Policies and Inputs

The key agricultural policies of 1973 apparently will continue in 1974 with little or no change, aside from the degree of emphasis, and no significant revisions are in sight. Soviet officials seem to feel that current policies are gradually bringing the desired results, and that for the current year more of the same is in order. Soviet raw material and energy supplies appear large enough to provide the planned fertilizer and other inputs for this year's agricultural production.

Government and collective farm investment in agriculture in 1974 is scheduled to be 27.9 billion rubles, 8 percent more than in 1973 and 27 percent of all capital investment. The Government's part is supposed to be 18.4 billion rubles, 12 percent greater than that realized last year, while the collective farms' share is planned to rise only 1 percent to 9.5 billion rubles.

Land improvement this year by Government investment alone is scheduled to use 6.9 billion rubles, a third more than in 1973. Providing irrigation to 862,000 more hectares of land, including 258,000 hectares of pasture, will be a major objective of this investment. Much of the newly irrigated land will be in Central Asia, Transcaucasus, Russian Federation, and the Ukraine. Expansion of irrigated vegetable production near large population and industrial centers is to receive priority attention. New drainage of 941,000 hectares is also scheduled for 1974. .

Other agricultural-input goals for this year include supplying farms with 64.6 million tons of fertilizer, 6.6 million tons above the 1973 amount. The largest part of this increase is for areas with relatively adequate precipitation to make possible the largest gains in yields of grains and feed crops. Raw material supplies and plant capacity seem adequate for providing this planned fertilizer.

Machinery delivered to agriculture is to increase from 1973 numbers by the following percentages—tractors, 9 percent; trucks, 11 percent; and other agricultural machinery, more than 12 percent. Tractors supplied will include more of the largest and newest kinds, and all of the grain combines are to be the newest and highest capacity models. Fuel for operating the increased number of agricultural machines appears assured.

Other 1974 inputs planned include the completion of new large-scale poultry units for more than 30 million birds, and additional large feeding complexes for 63,000 beef cattle and more than a million hogs. At least some of these complexes probably are for the increasingly emphasized interfarm enterprises. (Roger S. Euler)

Agricultural Production

Agricultural output in 1974 is planned to increase by 6.4 percent over the 1973 level. However, Soviet 1974 crop production is expected to fall somewhat short of the record 1973 performance, unless weather should again be much better than normal during the growing season. Thus, any increase in 1974 Soviet agricultural production will probably be attributable to livestock raising. It seems doubtful that the increase in the value of livestock production will be

[6]Currently, at the official Soviet rate, 1 ruble equals almost 1.3 U.S. dollars. However, when traded on West European exchanges, the ruble is discounted considerably.

large enough to offset some decrease in the value of crop production and still raise the value of 1974 agricultural output by 6.4 percent.

Crops

Soviet grain production in 1974 is planned at 205 million tons (table 13), about 17 million tons or 8 percent less than the 1973 record harvest. A 1974 grain crop equal to the planned amount from a planned area of 126 million hectares appears realistic given normal weather. Projection of overall Soviet grain yields to 1974 using the 1957-71 yield trend results in a yield only about 4 percent below the 16.3 quintals per hectare that is planned. The 1974 wheat crop is planned at 100 million tons, about 90 percent of the 1973 crop, and 1974 feed grain production, at about 75 million tons, would be 12 million less than in 1973.

Currently, prospects for winter grains are relatively favorable. Seeding of these grains was carried out last fall on 35.3 million hectares, an area about equal to that planned and a third more than was sown the previous fall. Moisture conditions were good last fall for seeding, in sharp contrast to the dry soils the fall before, when only 27 million hectares (of which an estimated 24.4 million were harvested), or 80 percent of the planned area, were sown. Snow cover was insufficient to protect the winter grains from severe cold over rather large areas in the southern part of European USSR during the 1973/74 winter. However, damage to the winter grains probably was not unusually heavy, certainly not equal to the amount of winterkill experienced in 1969 and 1972.

Prospects for major crops other than grains in 1974 are mixed but mostly are for somewhat smaller harvests than in 1973. Cotton is the bright spot, with another gradual increase in production probably in prospect for 1974. The cotton goal is 7.3 million tons, and that for sugarbeets is 90 million tons. Sugarbeet and sunflowerseed crops almost as large as the 1973 crops seem likely in 1974, given a continuation of the 1957-71 trends in yields. Soviet sunflowered

Table 13--Grain: Planned area, yield, and production, USSR, 1974

Grain	Area 1/	Yield 2/	Production
	Million hectares	Quintals per ha.	Million tons
Wheat	63	16	100.1
Rye	11	13	14.1
Barley	24	18	43.0
Oats	11	15	16.7
Corn	5	30	14.9
Pulses	7	15	10.9
Others 3/	5	12	4/ 5.9
Total	126.0	16.3	205.6

1/ Estimated except for total grain area.
2/ Calculated from area and production data except for total grain yield.
3/ Includes Millet, buckwheat, and rice.
4/ Calculated residual.

Source: Zernovoye Khozyaystvo, No. 1, 1974, p. 3.

production in 1974 is planned at almost 7.2 million tons, 2 percent less than the 1973 harvest. With respect to potatoes and vegetables, past yield trends suggest that 1974 crops will be about 5 percent smaller than the 1973 crops. (Fletcher Pope, Jr.)

Livestock

The outlook for livestock production in 1974 is very good. Plans call for the production of 14.4 million tons of meat, 90.8 million tons of milk, and 53.5 billion eggs. These goals represent increases of 7 percent, 4 percent, and 5 percent, respectively, over 1973 production. The rebuilt livestock herds and bumper feed availabilities at the beginning of 1974 augur well for attainment of the meat target and provide a good foundation for dairy herd performance. Final results, however, will depend on 1974 summer pasture conditions and feed crop outturn. The 1974 targets for meat and milk are both 5 percent below the original 5-year plan goals for 1974. Increasing commercialization of poultry meat and egg production is expected to enable continuation in 1974 of production uptrends in this sector. (David M. Schoonover)

Agricultural Trade

Soviet agricultural trade in 1974 should return to a more normal pattern than existed in 1972 and 1973 in view of the record 1973 agricultural performance and an assumption of normal weather this year. The volume of agricultural imports in relation to agricultural exports will probably be sharply reduced from the 1973 level.

Agricultural imports during 1974 will probably be sharply curtailed, primarily because large grain imports will not likely be required. Also, improved domestic supplies should permit Soviet agricultural exports, including grain, to recover from the low levels of the past 2 years. In fact, the Soviet Union could regain its traditional role of a net grain exporter in 1974. However, if weather should be below normal and the grain crop substantially smaller than targeted, the USSR again could be a major importer during the second half of the year.

Soviet trade in oilseeds and products during 1974 is also expected to pick up in volume. A substantial increase in sunflowerseed oil exports is foreseen, considering the record Government purchases from the 1973 sunflowerseed crop. In view of the relatively good oilseed situation from the 1973 crop year, it currently seems unlikely that the Soviets will make any substantial purchases of U.S. soybeans during 1974 unless prices should decrease sharply. However, even with lower prices, the Soviets might be more inclined to purchase soybean oilcake and meal rather than beans since their oilseed crushing capacity will be more fully utilized than normal in processing domestic oilseeds.

Because of the improved 1973 Soviet sugarbeet crop and increased availability of raw sugar from the relatively good 1973/74 Cuban crop, the Soviet sugar situation has improved considerably. Thus, little or no buying on the world market is foreseen at this time. One indication of the improvement in Soviet sugar supplies was reflected in November 1973, when the USSR agreed to supply Finland with 130,000 tons of raw sugar (probably diverted from Cuba) in 1974—the first sizable shipment of any kind of sugar to Finland in the past 2 years.

The outstanding 1973 cotton crop placed the USSR in a position to expand net exports of this commodity again in 1974. Based on our estimate of the lint cotton derived from the 1973 crop in relation to the recent trend in domestic utilization, Soviet net exports of lint cotton in 1974 could be more than 500,000 tons, again assuming no change in carryover stocks. (Fletcher Pope, Jr. and Angel O. Byrne)

Table 14--Grain: Area, yield, and production, USSR, average 1966-70, annual 1966-73

Year	Wheat			Rye	Barley	Oats	Corn	Others 1/	Total grain
	Winter	Spring	Total						
Area	1,000 hectares								
1966	19,803	50,155	69,958	13,583	19,396	7,162	3,229	11,479	124,807
1967	19,708	47,318	67,026	12,418	19,125	8,688	3,485	11,430	122,172
1968	18,972	48,259	67,231	12,269	19,353	8,998	3,350	10,271	121,472
1969	14,414	52,012	66,426	9,237	22,484	9,300	4,167	11,089	122,703
1970	18,505	46,725	65,230	10,020	21,297	9,250	3,353	10,111	119,261
1966-70 av.	18,280	48,894	67,174	11,505	20,331	8,680	3,517	10,876	122,083
1971	20,694	43,341	64,035	9,507	21,600	9,600	3,332	9,863	117,937
1972	14,979	43,513	58,492	8,160	27,300	11,400	4,012	10,720	120,158
1973	18,350	44,805	63,155	7,012	29,387	11,887	4,031	11,266	126,738
1974									
1975									
1971-75 av.									
Yield 2/	Quintals per hectare								
1966	20.4	12.0	14.4	9.7	14.4	12.8	26.1	10.5	13.7
1967	17.8	8.9	11.5	10.5	12.9	13.3	26.3	10.6	12.1
1968	18.3	12.2	13.9	11.5	14.9	12.9	26.4	12.3	14.0
1969	18.9	10.1	12.0	11.9	14.5	14.0	28.7	12.5	13.2
1970	22.8	12.3	15.3	13.0	17.9	15.3	28.0	12.2	15.6
1966-70 av.	19.6	11.1	13.4	11.2	15.0	13.8	27.2	11.6	13.7
1971	23.1	11.8	15.4	13.5	16.0	15.2	25.7	12.0	15.4
1972	19.6	13.0	14.7	11.8	13.5	12.4	24.4	11.1	14.0
1973	3/26.2	3/13.8	17.4	15.3	18.7	14.7	33.3	14.4	17.6
1974									
1975									
1971-75 av.									
Production	1,000 tons								
1966	40,303	60,196	100,499	13,146	27,879	9,199	8,416	12,045	171,184
1967	35,142	42,277	77,419	12,986	24,662	11,581	9,163	12,076	147,887
1968	34,647	58,746	93,393	14,120	28,904	11,639	8,828	12,656	169,540
1969	27,210	52,707	79,917	10,945	32,652	13,070	11,954	13,864	162,402
1970	42,140	57,594	99,734	12,972	38,172	14,203	9,428	12,286	186,795
1966-70 av.	35,888	54,304	90,192	12,834	30,454	11,938	9,558	12,585	167,562
1971	47,803	51,142	98,760	12,787	34,600	14,600	8,597	11,831	181,175
1972	29,359	56,567	85,950	9,633	36,800	14,000	9,830	12,000	168,178
1973	3/48,000	3/61,700	109,680	10,745	54,981	17,455	13,440	16,197	222,498
1974									
1975									
1971-75 av.									

1/ Includes millet, buckwheat, rice, and pulses.
2/ Calculated from area and production data when official yield data were not available.
3/ Estimates.

Table 15--Selected nongrain crops: Area, yield, and production, USSR, average 1966-70, annual 1966-73

Year	Cotton	Sugar beets	Sunflowers	Fiber flax	Potatoes	Vegetables
Area			1,000 hectares			
1966	2,463	3,803	5,004	1,403	8,392	1,400
1967	2,442	3,797	4,767	1,375	8,331	1,429
1968	2,445	3,560	4,863	1,334	8,301	1,425
1969	2,540	3,384	4,772	1,309	8,100	1,447
1970	2,746	3,368	4,777	1,284	8,064	1,499
1966-70 av.	2,527	3,582	4,837	1,341	8,238	1,440
1971	2,770	3,321	4,498	1,244	7,894	1,519
1972	2,735	3,486	4,394	1,251	7,960	1,578
1973	2,742	3,553	4,750	1,248	8,017	1,621
1974						
1975						
1971-75 av.						
Yield			Quintals per hectare			
1966	24.3	195	12.2	3.3	105	125
1967	24.5	230	13.8	3.5	115	141
1968	24.3	266	13.7	3.0	123	131
1969	22.5	211	13.3	3.7	113	126
1970	25.1	237	12.8	3.6	120	138
1966-70 av.	24.1	228	13.2	3.4	115	132
1971	25.6	219	12.6	3.9	117	132
1972	26.7	223	11.4	3.7	98	122
1973	27.9	244	15.4	3.6	134	149
1974						
1975						
1971-75 av.						
Production			1,000 tons			
1966	5,981	74,037	6,150	461	87,853	17,857
1967	5,970	87,111	6,608	485	95,464	20,534
1968	5,945	94,340	6,685	402	102,184	19,011
1969	5,708	71,158	6,358	487	91,779	18,745
1970	6,890	78,942	6,144	456	96,783	21,212
1966-70 av.	6,099	81,118	6,389	458	94,813	19,472
1971	7,101	72,185	5,663	486	92,655	20,840
1972	7,296	76,419	5,048	458	78,329	19,941
1973	7,662	86,757	7,338	443	107,655	24,528
1974						
1975						
1971-75 av.						

Table 16--Principal agricultural imports, USSR, 1966-72

Commodities	1966	1967	1968	1969	1970	1971	1972
				1,000 tons			
Grain							
Total	7,746	2,185	1,606	639	2,158	3,500	1/
Wheat	7,583	1,828	1,340	38	1,846	2,300	1/
Corn	164	357	264	498	304	881	1/
Rice, milled	275	397	260	326	323	332	280
Wheat flour	322	212	263	273	259	279	274
Animals for slaughter							
Cattle	107	92	67	29	20	14	10
Sheep	74	63	43	37	40	39	45
Horses	9	10	13	14	15	16	15
Meat and meat products	133	58	60	76	165	225	134
Shell eggs 2/	34	41	37	26	33	52	56
Fruit							
Fresh	447	539	527	720	679	691	808
Dried	69	100	108	104	129	130	96
Vegetables							
Fresh	139	151	169	182	163	200	269
Canned	203	240	211	214	249	310	346
Raw sugar 3/	1,841	2,480	1,752	1,332	3,003	1,503	1,970
Coffee	28	25	31	48	42	43	42
Cocoa beans	56	82	109	99	100	138	132
Tea	21	23	23	28	29	43	48
Tobacco	65	61	62	55	70	72	90
Hides and skins 4/	27	30	24	27	30	25	24
Oilseeds	49	44	56	58	43	45	379
Crude rubber	311	278	326	295	316	246	231
Wool, scoured	61	50	71	76	83	86	83
Cotton, lint	173	144	137	170	258	243	167
Vegetable oil, edible	47	28	41	24	65	64	60

1/ Not reported.
2/ Converted at the rate of 18,182 eggs per metric ton or 55 grams per egg.
3/ Includes any refined sugar imports converted to a raw basis.
4/ Millions of hides and skins.

Table 17--Principal agricultural exports, USSR, 1966-72

Commodities	1966	1967	1968	1969	1970	1971	1972
				1,000 tons			
Grain							
Total	3,557	6,248	5,406	7,200	5,700	8,600	1/
Wheat	2,805	5,284	4,355	5,979	4,733	7,617	1/
Barley	290	452	614	748	503	688	1/
Corn	174	165	209	247	281	118	1/
Rye	275	336	222	222	172	208	1/
Oats	12	11	6	8	9	10	1/
Flour	306	377	564	593	772	654	378
Groats	12	9	8	42	25	40	146
Pulses	428	76	138	422	65	150	55
Sugar, refined	993	1,032	1,300	1,081	1,079	1,002	50
Tobacco	1	2	4	4	4	2	2
Meat and meat products	118	175	131	98	55	35	60
Butter	54	63	76	74	73	24	16
Hides and skins 2/	2	2	2	3	2	1	1
Wool, scoured	28	20	26	24	18	14	12
Oilseed cake and meal	390	388	325	319	54	44	52
Oilseeds	147	341	405	345	143	84	74
Vegetable oil, edible							
Total	456	707	770	696	372	408	423
Sunflower	428	670	714	656	351	379	394
Tea	12	10	14	13	10	11	12
Cotton, lint	508	534	554	452	516	547	652
Flax fiber	11	10	8	8	9	9	9
Flax tow	26	22	26	18	32	27	26
Starch	1/	1/	1/	21	19	14	8

1/ Not reported.
2/ Millions of hides and skins.

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